



CNM101: Facility Orientation for CNM Users

Introduction

Purpose

The information given here will help you understand and satisfy US Department of Energy and Argonne National Laboratory (Argonne) requirements. Although it may touch on some of the topics covered in the Argonne orientation (ESH100U), the emphasis is on CNM user policies and procedures.

Objectives

After completing this course, you should be able to:

- Understand and explain your responsibilities as a CNM facility user,
 - Identify where you should go for help in specific situations, and
 - Understand what to do in emergencies.
-

CNM User Work Approval

Argonne National Laboratory requires that:

- The CNM evaluate all work to be performed by users;
- The CNM and its users implement hazard controls consistent with Argonne policy and procedural requirements to reduce risks to acceptable levels; and
- The CNM Facility formally authorize the conduct of work before it begins.

The CNM and its users meet these requirements by cooperatively developing *User Work Authorization* records and implementing the hazard controls specified in the records, including those incorporated by reference.

User Work Authorization Records

Each CNM User Work Authorization (UWA) consists of:

- A definition of approved work,
- A description of hazards and required hazard controls that are both consistent with Department of Energy expectations and capable of reducing risks to acceptable levels,

- User acknowledgements, and
- Facility approvals

DEFINITION OF APPROVED WORK

The spokesperson for your group defined the work you are authorized to perform at the CNM. The description identifies:

- Participating personnel
- Equipment
- Materials
- Processes

A CNM scientific contact may further define work by adding information that would be more clearly understood by CNM personnel familiar with equipment, processes, and locations. The UWA will list (and incorporate by reference) standard operating procedures. These process-level documents identify hazards and specify how work is to be performed, including precautionary actions.

HAZARD CONTROLS

The CNM and, in some cases, affiliated divisions have evaluated the information about your work and the proposed hazard controls supplied your group's spokesperson and by the CNM scientific contact and process custodians. Argonne policy requires verification that prescribed hazard controls have been implemented, in some cases by personnel independent of your experiment. If such requirements apply to your work, they are prescribed in the User Work Authorization. You may not proceed with any work until applicable verifications have been completed and until you have been authorized for the specific processes in which you will be engaged.

CNM AND USER RESPONSIBILITIES

The CNM and its personnel are here to provide the support you need to work safely and effectively. Please give them the opportunity to carry out this responsibility by communicating openly with them.

The CNM expects you to:

- Read the User Work Authorization (UWA) for the planned work,
- Call to the CNM's attention your uncertainty about hazards, hazard control requirements and other expectations,
- Work in conformance with hazard control requirements set forth in the UWA,
- Sign an acknowledgement indicating that you have read the UWA,
- Promptly report concerns and problems, and
- Alert the CNM about the need to modify work programs (e.g., add equipment, materials, processes, etc.) and receive CNM approval before engaging in work not explicitly authorized in your UWA.

Modifications to Planned Work

The CNM hopes that the planning that goes into each project (and UWA) is sufficient, but also understands that, particularly in a research environment, plans may need to change. As soon as you know you need or want to conduct work outside of the scope defined in your UWA, inform your CNM

scientific contact. The CNM scientific contact will do what is needed to accommodate the changes and secure Facility approvals. Typically this is accommodated by a revision to the UWA.

Working Hours Restrictions

Regular working hours for users are Monday through Friday from 7:00 am to 7:00 pm (central time zone). Regular work hours do not include times when management has closed the Laboratory, including holidays.

Users may not work off-hours without:

- Prior written approval in the form of a User Work Authorization or revision thereof.
- In general, the presence at the CNM of the CNM scientific contact or another CNM employee who the scientific contact has designated as an alternate. (The UWA will note if this requirement has been waived.)

Laboratory Closure

The CNM prohibits its employees and users from working on-site when Argonne management has closed the laboratory in response to inclement weather or an emergency affecting the site.

Extended Work Shifts

The CNM considers a work shift to extend from the start of work until the worker (Argonne employee or CNM user) begins a break that will last at least 8 continuous hours. The CNM prohibits Argonne employee or user involvement in technical facilities by individuals who started their work shift more than 12 hours earlier.

Working Alone Restrictions

Working alone is generally not permissible at the CNM. **Working Alone** means a situation in which a worker is not in the immediate proximity of others, cannot be seen or heard by another person, and contact with another worker is unlikely.

- CNM discourages working in technical facilities when no one else is present in the room.
 - CNM prohibits working alone in technical facilities unless the standard operating procedure (SOP) or other CNM-approved process level work control document covering the worker's activity explicitly permits working alone.
 - CNM prohibits the use of audio devices with headphones while working alone.
-

Key CNM Personnel

CNM Scientific Contact

The CNM assigns a scientific contact to each proposed user experiment. The scientific contact's responsibilities include:

- Introducing you to persons who will support the conduct of your work,
- Ensuring that you get an adequate orientation to the facilities in which you will work and the UWA for your project,
- Facilitating modifications, if needed, to the UWA for your work, and
- Arranging technical safety support, if needed.

Process Custodian

The CNM and other ANL Divisions have assigned managerial responsibilities for each major piece of equipment and/or each process to specific individuals (custodians). You will be introduced to one or more of these persons or their alternates. They are the persons who will train you and authorize your work at the process level. They are also the first persons to contact if you have a question or concern related to any safety, health, or environmental hazard that cannot be answered by your scientific contact.

Laboratory Supervisor

Each CNM laboratory is managed by a Laboratory Supervisor. In most cases, the Laboratory Supervisor is also a Process Custodian for one or more processes located in the laboratory.

Environment, Safety, and Health (ESH) Support

CNM safety personnel are credentialed professionals who are familiar with not only health hazards typically associated with CNM work environments, but also safety, transportation, and environmental concerns. As certified professionals, they are obligated to keep confidential business and personal information obtained during the conduct of their work unless required to disclose the information by law or an overriding safety or health consideration. You may contact these individuals through your scientific contact, the CNM User Office, or the CNM Division Office.

CNM safety personnel should be contacted whenever an incident – that is an accident with consequences or a near miss – involves a CNM user or CNM authorized user activity.

Facility & Specialty Systems Manager

The facility and specialty systems manager for Buildings 440 and 441 is Ron Tollner [phone 2-4457]. He may be contacted for any building-related questions if your scientific contact, laboratory supervisor(s), or processes custodian(s) are unavailable.

Work in Locations Managed by Other ANL Organizations

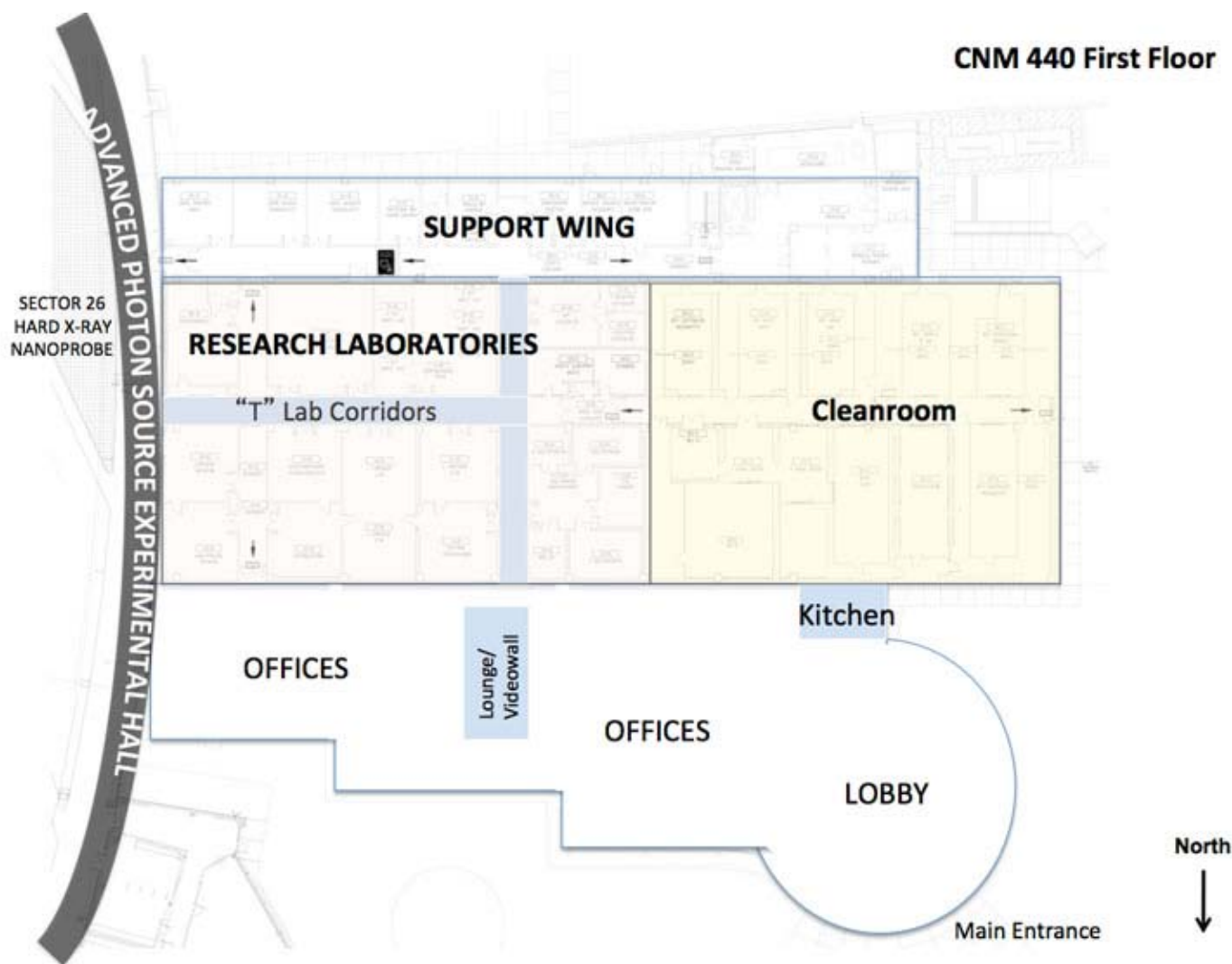
Some of your work might be conducted in a location managed by another Argonne division. While you work in a space managed by another division, you must adhere to its policies and procedures. In general, other divisions' policies and procedures are integrated into your UWA or process level work control documents (or incorporated by reference).

Laboratory Space

General

If you brought support items and equipment, notify your scientific contact. Such items must be unboxed or uncrated at the dock or south corridor prior to entering the laboratory corridor space. Please ensure that debris is placed in a trash container and write the word TRASH on all other material to be discarded by the custodial crew.

As posted, the "T" laboratory corridor should not be used to travel from the office space to the south corridor or vice versa. This helps reduce any unnecessary foot traffic near the clean room facility. Your scientific contact will identify the "T" corridor as part of your on-site orientation at the CNM.



Laboratory Attire

Shorts, sleeveless shirts, and sandals are not permitted in laboratory spaces. Disposable laboratory coats are provided by the CNM; you cannot use any other labcoats, and labcoats cannot be worn outside laboratory spaces. You may bring your own safety glasses but the CNM does provide safety-approved cover specs and also splash goggles.

Proximity Card Readers

Building 440 is equipped with proximity card readers that not only allow keyless entry into the building during off hours, but also into individual laboratory spaces. Your individual access needs have been entered into the card reader database. If you cannot gain access to a space you need to enter, inform your scientific contact or the User Office (phone 2-6952).

Chemicals

Standard operating procedures, container labels, and MSDSs identify hazards and describe controls for all chemicals present at CNM. All chemicals, secondary containers, and waste bottles must be properly labeled. The chemical staging room manager can provide labels; this is Judy Yaeger (phone 2-5166). If you have questions, please address them to the process custodian, laboratory supervisor, or ESH

personnel.

The CNM has arranged for the disposal of chemical wastes you generate while working at the CNM at no cost to your home institution, thereby eliminating the need for you to ship waste materials to your home institution.

Eating and Drinking

Food and drinks are NOT allowed in CNM laboratories. Drinks such as water, coffee, tea, soda, etc. are allowed in the office areas. Food may only be eaten in the kitchen/lunchroom area.

Emergency Information

General

The information provided in the Argonne ES&H orientation for facility users (ESH100U) is applicable at the CNM.

If you observe any event that results in personal injury or an uncontrolled release of a hazardous substance or energy that might cause injury or harm the environment, remove yourself from danger and then, if you are not being accompanied by CNM personnel, locate an Argonne telephone and dial 9-1-1. If you have a cellular telephone, you can report an Argonne emergency by dialing 1-630-252-1911.

After dialing 9-1-1, you must notify the process custodian, laboratory supervisor, or scientific contact. There are no penalties for dialing 9-1-1, even if the response seems to go beyond what seems reasonable. The greater risk is failing to dial 9-1-1.

Spills

Most written procedures have a “contingency” section that addresses how spills should be managed. Such written guidance for a process supersedes the general guidance that follows. In general, unless otherwise instructed by CNM or host facility personnel, users should report spills by dialing 9-1-1 and then wait for clean-up by Argonne personnel. If you believe such a response is unnecessarily conservative for your work, call your concern to the attention of the process custodian, the laboratory supervisor, or your CNM scientific contact.

Fires

If a fire erupts, promptly report it from a safe location by dialing 9-1-1 and then report it to the process custodian, laboratory supervisor, your scientific contact or another Argonne worker.

In the event of a fire, a heat or smoke detector or fire suppression system will activate and initiate the sounding of the local alarm bells and strobe lights. The Argonne Fire Department will be simultaneously alerted. If a fire is discovered before an automatic system activates, dial 9-1-1 immediately.

Incidents in Cleanrooms

Although the CNM appreciates attempts to assist injured or sick workers in a manner that does not put the cleanliness of the work area at risk, worker well-being takes precedence.

Emergency Exercises

Shelter-in-Place (such as tornado) and evacuation (such as fire) drills are required annually. Should a drill take place during your visit, your participation is mandatory and your response should be the same as it would be in an actual emergency.

Emergency Alarms

If evacuation alarms sound, all building occupants must assemble in the APS Experiment Hall/Building 400, Sector 34 area, Column 169. This building is connected to the CNM building at the east end. Your scientific contact, laboratory supervisor, or process custodian will direct you to this area.

Tornado Shelter

When a tornado warning is announced over the public address system (indoors) or a siren is sounded (outdoors), follow the nearest route, using corridors and stairways, not elevators, to the designated tornado shelters located at the first and second floor washrooms, Corridor D104 east end, Corridor B113 east end, and Corridor B124 mid point. They are marked with signs that read "Tornado Shelter."

Laser Controlled Area

The CNM has several laser controlled areas, that is, areas with access restrictions and engineered controls designed to protect persons from injury due to exposure to laser light. Laser controlled areas can be found in laboratories B105, B109, B115-B119. If your work does not require you to enter them, please keep out.

Material Safety Data Sheets (MSDSs)

MSDSs are located in binders at the entrance to or in the individual CNM laboratories and are available on-line through the Chemical Management System (CMS).

Emergency Showers and Eye-Wash Stations

Eyewash fountains and safety showers are located in CNM spaces where splashes of corrosive or toxic liquids might occur. Do not position materials or equipment in the exclusion zones (marked by yellow tape).

Stack Lights/Alarms

This section pertains to the clean room facility and the chemical staging/storage room, room C121. In the event of a hazardous/toxic gas release, the Gas Detection Alarm System will activate. The alarms are:

BLUE blinking light: No action is necessary by occupants. This light is activated by one of the following

actions:

- Fault in monitoring
- Warning
- Maintenance

AMBER blinking lights and RED blinking lights: Immediately go to the gowning room. Wait there for further instructions. These alarms are activated when a gas sensor detects the unexpected presence of a gas. They will not occur simultaneously; either one or the other will occur. The RED lights will be accompanied by an audible alarm:

Hazards

Electrical, Magnetic Fields or High Voltage DC

Any significant electrical hazards present in the individual laboratories are labeled and/or identified in standard operating procedures.

Pressure and Vacuum Systems

Any significant pressure hazards present in the individual laboratories are labeled and/or identified in standard operating procedures.

Ultraviolet Hazards

Ultraviolet hazards (UV) in this building include hood lighting in B111, when turned on, and also several lamps that are intended to simulate sunlight. Precautions can be found in standard operating procedures.

Ionizing Radiation

An x-ray generator is located in B126. Do not attempt to operate this equipment without training.

Chemicals

Hazardous chemicals are located in most CNM laboratories. Standard operating procedures, container labels, and MSDSs identify hazards and describe controls. If you have questions, please address them to the process custodian, laboratory supervisor, or ESH personnel.

Cryogenic Liquids

Cryogenic liquids (or cryogens) are defined as liquids having a normal boiling point below -244F. As liquids, they are so cold that contact with them can destroy tissue and cause irreversible injury. Dewars and equipment containing cryogens can be found in several CNM laboratories and are generally labeled.

Compressed Gas Cylinders

Compressed gas cylinders, systems, and associated equipment have requirements and procedures for the identification, storage, handling, and use. A user should never attempt to move a compressed gas cylinder.

Housekeeping

The shared spaces of a busy user facility such as the CNM require neatness.

More Information

You may contact your CNM scientific contact, laboratory supervisor, the Facility Manager or CNM ESH personnel for additional guidance on any of these topics or any other concerns.

Sanctions for Conduct Inconsistent With Policies and Procedures

The CNM, Argonne, and the Department of Energy expect that you will conduct yourself and your work in conformance with DOE directives and Laboratory policy. The CNM has developed means, for example, the User Work Authorization and standard operating procedures, to clearly communicate expectations; the CNM expects you and other members of your group to follow these safety guidelines.

CNM management has and will use its authority to restrict user access if it finds that your conduct fails to meet defined expectations set forth in the UWA and related documents. Sanctions may be applied not only in cases involving intentional disregard, but also in cases of willful negligence.

[Take Exam Now](#)